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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/744,250	03/07/2001	Hyoung Gon Kim	7114	4702
7590 07/02/2004 Shlesinger Arkwright & Garvey LLP 3000 South Eads Street Arlington, VA 22202			EXAMINER LU, TOM Y	
			ART UNIT 2621	PAPER NUMBER 9
DATE MAILED: 07/02/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/744,250

Applicant(s)

KIM ET AL.

Examiner

Tom Y Lu

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,4-6 and 13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13 is/are allowed.
- 6) ☒ Claim(s) 1 and 4-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

1. The amendment and written response filed on March 30, 2004 has been entered.
2. Claims 2-3 and 7-12 are cancelled.
3. Claim 13 is added.
4. Claims 1 and 4 are amended.
5. Claims 1, 4-6 and 13 are pending.

### *Response to Arguments*

6. Applicant's arguments, see Remarks, page 6-8, filed on March 30, 2004, with respect to the rejection(s) of claim(s) 1 under 35 USC 102 (e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Sathe et al (U.S. Patent No. 5,909,249) and Hanko et al (U.S. Patent No. 6,493,041 B1).

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 4-5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sathe et al (U.S. Patent No. 5,909,249) in view of Hanko et al (U.S. Patent No. 6,493,041 B1).

- a. Referring to Claim 1, Sathe discloses a color normalizer for normalizing color components of each color frame image to produce a normalized color frame image (Sathe: column 7, line 21-22); a color transformer coupled to the color

normalizer for color transforming the normalized color frame image to a first color transformed frame image, said first color transformed frame image having intensity levels such that pixels corresponding to said moving object are emphasized (Sathe: column 7, line 47-48, the transfer function is the claimed "color transformer",  $Y_{out}$  is the transformed frame image. In addition, Sathe at column 7, line 65-66 and column 8, lines 1-4, teaches the luminance signal  $Y$  is amplified, and the presence of high-frequency, low amplitude transformed components is reduced, which means the background intensity is reduced, as a result, the moving object is emphasized) a frame delay coupled to the color transformer for delaying the first color transformed frame image by one frame, said delayed first color transformed frame image being a second color transformed frame image (Sathe at column 7, line 30, teaches luminance signal  $Y$  is inputted to video encoder as shown in figure 1, which contains a frame delay 100); and a motion detector coupled to the color transformer and the frame delay for detecting the motion of the moving object (the combination of motion compensator 120 and motion estimator 110). However, Sathe does not explicitly teach further intensifying the intensity levels of said first color transformed frame image based on the detected motion. Hanko at column 7, lines 51-52, teaches intensifying the intensity levels of said first color transformed frame image by specifying the regions that should be more or less sensitive to changes in pixel values, and comparing change difference with threshold weights. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to intensify the intensity levels of transformed frame image because

Hanko at column 7, lines 60-65, teaches the sensitivity of an area that contains a continuously moving object can be attenuated.

- b. Referring to Claim 4, Hanko discloses wherein said motion detector comprises means for detecting the motion of each pixel by counting pixels adjacent said each pixel whose intensity level difference between said first and second color transformed frame images are larger than a threshold value (column 7, line 55); and said intensity level of each pixel is further intensified by weighting said intensity level in accordance with said detected motion of said each pixel (column 7, line 57).
- c. Referring to Claim 5, Hanko discloses wherein said weighting is performed by fuzzy-AND operating said intensity level with said detected motion for said each pixel (Hanko at column 7, lines 56-57, teaches the weighting defines the degree of change required before a given pixel is deemed to have changed, which must be done through use of fuzzy-AND operation).
- d. Referring to Claim 6, Hanko teaches the threshold weights are defined by the degree of changed before a given pixel is deemed to have changed. A given pixel is the claimed Z, and the degree of change is the claimed Q.

*Allowable Subject Matter*

8. Claim 13 is allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Claim 13 defines a feature of the intensity level of said each pixel of the first color transformed frame image and the normalized color components of the pixel have a relationship as follows:  $Z(x, y) = GF(r(x, y), (g(x, y)))$  wherein (x, y) is a coordinate of said pixel in the normalized frame image, r (x, y) and g (x, y) are normalized color components of the pixel at the

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coordinate (x, y), and  $GF()$  is a 2-dimensional Gaussian distribution function. This feature in Claims 3 and 9, which are the broadest allowable claims, is not taught or suggested by the art of record.

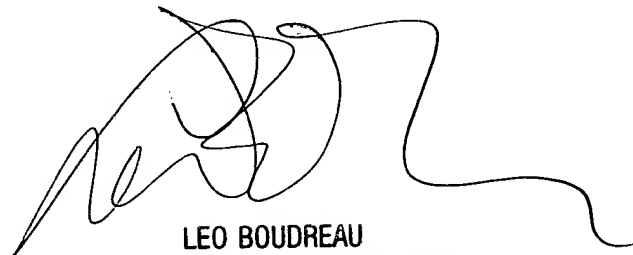
*Conclusion*

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom Y Lu whose telephone number is (703) 306-4057. The examiner can normally be reached on 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo H Boudreau can be reached on (703) 305-4706. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tom Y. Lu

A handwritten signature in black ink, appearing to read 'LEO BOUDREAU', with a long, sweeping horizontal line extending to the right.

LEO BOUDREAU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600